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NAVFAC **IGS-07840 (MAY 2002)**

Preparing Activity: LANTNAVFACENGCOM **Based on UFGS-07840N**

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only

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SECTION 07840

FIRESTOPPING

05/02

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NOTE: This guide specification is issued by the Atlantic Division, Naval Facilities Engineering Command for regional use in Italy.

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NOTE: This guide specification covers the requirements for firestopping using fire resistant materials to form an effective barrier against the spread of fire, smoke and gases, and to maintain the integrity of fire resistance rated construction. This specification is to be used in the preparation of project specifications in Italy in accordance with the laws, decrees and technical norms of that country.

As of this writing, Europe does not have central testing and listing agencies similar to Underwriters Laboratory or Factory Mutual. Instead products are tested individually and rated in minutes of fire resistance. Testing and certification of the results is provided by several universities, and other independent testing agencies. The testing agencies themselves are certified as operating in conformance with EN 45001:1989, General criteria for the operation of testing laboratories.

The fire resistance ratings in Italy are expressed in R.E.I ratings of 15 through 180 minutes as described by Circular 91 of the Minster of the Interior, 14 September 1961. The general requirements for fire testing are described in ISO 834-1975, Fire resistance tests-Elements of building construction. Specific tests for individual materials and assemblies are described by the individual testing laboratories and national standards.

The requirements for specific R.E.I rating derives from the application of the fire protection laws, decrees and technical norms of Italy. As of this writing Italy has not adopted the fire protection aspects of the Eurocode. The use of U.S. codes will result in the selection of hourly rated materials (U.L. listed) and will not have any relationship to materials available in Italy. It is also not know if the ISO test procedures will result in similar ratings to the ASTM fire tests. further, the inclusion of U.S. materials may result in certification problems when the building is completed.

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NOTE: On the drawings, show:

1. Locations of firestopping not specified

2. Details of firestopping, for each type of construction.

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Comments and suggestion on this specification are welcome and should be directed to the technical proponent of the specification. A listing of the technical proponents, including their organization designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

EUROPEAN COMMITTEE FOR STANDARDIZATION (EN)

EN 45001	(1989), General Criteria for the Operation of Testing Laboratories

MINSTERIAL CIRCULARS (CM)

CM 91	(1961) Minsterial Circular 91, 14.09.61

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 834	(1975); Fire Resistance Tests - Elements of Building Construction; Amendment 1: 1979; Amendment 2: 1980

The organizations listed below provide test certifications and are referred to in the text by the basic designation only.

LABORATORI DEL CENTRO STUDI ed EXPERIENCE (CSE)

CSE	Certification of Reaction to Fire from C.S.E. Laboratori del Centro Studi Esperienze, Ministero dell'Interno, Director, General Services Fire Prevention and Protection of the Public, via Appia Nuova - 00178 Roma Campanelle, Italia, Tel: 06/718.3041, Fax: 06/799.0993

ISTITUTO GIORDANO (IG)

IG	Certification of Fire Resistance from Istituto Giordano, via Rossini, 2 - 47041 Bellaria (FO) Italia, Tel: 0541/34.3030, Fax: 0541/34.5540

1.2 SUBMITTALS

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NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item is required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for

Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

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Submit the following in accordance with Section entitled "Submittal Procedures." [The Fire Protection Engineer, [_____] Division, Naval Facilities Engineering Command will review and approve all submittals in this section requiring Government approval.] Through-penetration firestopping systems or designs shall be the types tested in accordance with ISO 834. Submittals shall show the construction compliance for the specific wall or floor assembly being penetrated and firestopping protected.

SD-03 Product Data

Firestopping G

SD-08 Manufacturer's Instructions

Firestopping

Include composition and performance characteristics; include system number and drawing for each design condition where product will be used.

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver materials in original unopened packages or containers showing name of manufacturer and brand name. Store materials off the ground and protect from damage and exposure to elements. Remove damaged and deteriorated materials from the site.

1.4 COORDINATION

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NOTE: Modify this paragraph for work where existing insulation is to remain or be removed.

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Coordinate the work with other trades. Apply firestopping materials at penetrations of pipes and ducts, prior to insulating, unless insulation meets requirements specified for firestopping.

PART 2 PRODUCTS

2.1 FIRESTOPPING

Provide asbestos-free firestopping material capable of maintaining an effective barrier against flame, gases, and temperature. Provide noncombustible firestopping that is nontoxic to human beings during installation or during fire conditions. Provide devices and equipment for firestopping use that have been tested and certified by a testing agency

listed by the Ente Nazionale d'Italiano Unificazione and certified as operating in compliance with EN 45001. Agencies complying with these requirements include (but are not limited to) CSE and IG.

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NOTE: Coordinate rating(s) of selected materials and systems with wall and floor rating(s) indicated on the drawings.

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2.1.1 Firestopping Rating

Provide firestopping materials with an R.E.I rating of [60], [120], [180], [____], [as indicated], [not less than the rating indicated for the walls or floors in which openings are to be protected] in accordance with CM 91.

2.2 AVAILABLE PRODUCTS

Products meeting the requirements of this specification are manufactured by the following:

Promat S.p.A.
Corso Paganini, 39/3
16125 Genova
Tel: 010/248-8411
Fax: 010/213-768

Joint
via del Vivaio, 15
40132 Bologna
Tel: 051/400-086
Fax: 051/400-398

Hilti Italia
via Console Flaminio, 17
20134 Milano
Tel: 02/264-0441
Fax: 02/264-13269

PART 3 EXECUTION

3.1 SURFACE PREPARATION

Prior to application, remove from surfaces all dirt, grease, oil, loose materials, rust, or other substances that may affect proper fitting or required fire resistance of firestopping materials. Prepare surface as recommended by manufacturer.

3.2 INSTALLATION

Install firestopping assembly at locations shown and as specified and as recommended by manufacturer.

3.2.1 Firestopping Locations

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NOTE: Delete inapplicable requirements and add any other requirements not covered. "Other locations" would refer to areas such as plenums and furred spaces. Location of firestopping in plenums should be indicated on floor or by notes without specific location. Provide details on drawings to correspond to each type of firestopping listed below.

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Completely fill openings around penetrating items with firestopping material to prevent spread of fire, smoke, gases, etc. in the following locations:

a. Around duct, cable, conduit, piping, and their supports that penetrate through or into fire-rated above grade floor slabs, interior partitions, and exterior walls.

b. Around openings and penetrations through or into fire-rated ceiling assemblies.

c. Around penetration through or into vertical fire-rated service shafts.

d. Around openings and penetrations through or into fire-rated enclosures.

3.2.2 Firestopping Construction Joints

Completely fill openings at construction joints with firestopping material to prevent spread of fire in the following locations:

a. Floor-to-Floor Joints

b. Wall-to-Wall Joints

c. Floor-to-Wall Joints

d. Head-of-Wall Joints

e. Single Membrane

3.2.2 Filling of Voids

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NOTE: Provide construction details for large openings not suitable for manufactured, filler type firestopping covered by this specification.

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Completely fill voids and construction openings flush with the surface; the depth of material shall be in accordance with tested and certified assemblies. Firestopping for filling voids in floors caused by pipe or

ductwork penetrations in which smallest dimension of a void is 100 mm 4 inches or more shall support the floor design load or be protected by a permanent barrier. Fill or repair construction openings in fire rated assemblies to match adjacent construction materials. The Contractor may provide firestopping in construction openings with permanent barriers to protect assemblies from damage in utility spaces. As an alternative, contractor may provide firestopping in construction opening with permanent barriers to protect assemblies from damage in utility spaces. Damaged, disrupted, or removed firestoppings shall be replaced with new firestoppings as specified in this section.

3.2.3 Insulated Pipes and Ducts

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NOTE: Coordinate insulation requirements with other sections.
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Replace thermal insulation with a material having equal thermal insulating characteristics and equal firestopping characteristics.

3.2.4 [Fire Dampers

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NOTE: When including this paragraph, assure that the appropriate information is supplied in Section 15810, "Ductwork and Ductwork Accessories."
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Provide fire dampers in ducts and penetrations of fire-rated construction in accordance with the requirements of Section 15810, "Ductwork and Ductwork Accessories."]

3.2.5 Wall and Floor Penetration by Plastic Drain, Waste, and Vent Pipes

A 2 hour fire resistive chase enclosure is maintained by encasing the pipe in an 450 mm 18 inch steel sleeve and penetrating the chase at a 45 degree downward angle. Chases shall be firestopped at each floor.

3.3 FIELD QUALITY CONTROL

Do not cover or enclose firestopped areas until approved by the Contracting Officer.

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NOTE: Suggestions for improvement of this specification will be welcomed using the Navy "Change Request Forms" subdirectory located in SPECSINTACT in Jobs or Masters under "Forms/Documents" directory or DD Form 1426. Suggestions should be forwarded to:

Commanding Officer
Naval Construction Battalion Center
NAVFAC 15G/CESO 158
1000 23rd Avenue
Port Hueneme, CA 93043-4301

FAX: (805) 985-6465/982-5196 or DSN 551-5196

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